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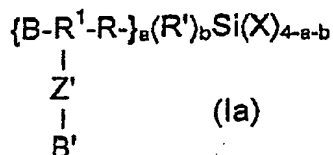
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(21) International Application Number:	PCT/EP2004/012035	(72) Inventor; and (75) Inventor/Applicant (only for the US): WOLTER, Herbert [DE/DE]: Staufferring 78, 97941 Tauberbischofsheim (DE)
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(71) Applicant (for all designated states with the exception of the US): FRAUNHOFER-GESELLSCHAFT		

(54) Title: SILANE AND SILICIC ACID POLYCONDENSATES WITH RADICALS CONTAINING BRANCHED-CHAIN URETHANE, ACID AMIDE AND/OR CARBOXYLIC ACID ESTER GROUPS



(57) Abstract: The invention relates to silane of formula (Ia), wherein the radicals and indices have the following meaning: R is an alkylene, arylene or alkylenearylene group that can be interrupted by one or more oxygen or sulfur atoms or carboxyl or amino groups or can carry said atoms/groups on their ends opposite the silicon atom; R<sup>1</sup> is a Z'-substituted alkylene, arylene or alkylenearylene group, which can be interrupted by one or more oxygen or sulfur atoms or carboxyl or amino groups or can carry said atoms/groups on one of their ends; R' is an alkyl, alkenyl, aryl, alkylaryl or arylalkyl group; B and B' can be identical or

different, both radicals can have the meaning of a straight-chained or branched organic group with at least one C=C double bond and at least 2 carbon atoms; B' can mean instead thereof but also -R<sup>2</sup><sub>a</sub>Si(OR<sup>3</sup>)<sub>4-a</sub> or -R<sup>2</sup><sub>a</sub>R'<sub>b</sub>Si(OR<sup>3</sup>)<sub>4-a-b</sub>, wherein R<sup>2</sup> is an alkylene group and R' has the meaning defined above; X represents a group that can enter into a hydrolytic while forming Si-O-Si bridges; Z' means -NH-C(O)O-, -NH-C(O)- or -CO(O)-, wherein the first two radicals are bonded to radical B' by means of the NH group, whereas the carboxylate group can point in both directions except for a minor exception; a represents 1 or 2, and b is 0 or 1. The invention also relates to silicic acid poly (partial) condensates which can be produced by hydrolysis and condensation of said silane, and to the polymer materials with or without filling materials produced therefrom. The invention further relates to a method for the production of the inventive silane.

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